UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/518,695	03/03/2000	Seung-Hee Yi	P-053	7137

	EXAMINER
7590 03/15/2004	ODLAND, DAVID E

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ART UNIT	PAPER NUMBER
2662	2

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 January 2004*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-19* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   The following is a response to the amendments filed on 01/12/2004.

Claim Objections

2.   Claim 18 is objected to because of the following informalities:

Claim 18 recites that the link determination data and link determination history both

comprise both a link determination history and a link determination data. It appears as though

the preamble of the claim should be adjusted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter, which the applicant regards as his invention.

4.   Claims 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

Claim 16 recites "…transferring the received signal message to a user part…" It is

unclear what is meant by 'a user part'.

Claim 17 recites "…routing the signal message through a link from the link

determination history determined to be a stable route for the data…" in lines 5 and 6. It is

unclear how the message can be routed 'from the link determination history' since the link

determination history is not an actual physical link. Furthermore, it is unclear what determined 'stable route' is being referred to since there way no previously recited steps for determining a stable route. Also, since the link determination history is not a route itself, it is unclear how the link determination history can be determined to be a stable route? Lastly, the claim recites "...determining the link of the Signal Link Selection as a signal link in the case that the signal message has not been previously routed using the same Signal Link Selection..." It is unclear how determining that the signal message was not previously routed using the Signal Link Selection would deem the link a 'signal link'?

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 13-16,18 and 19, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Glitho in view of Qiu et al. (USPN 5,615,254), hereafter referred to as Qiu.

Referring to claim 13, Glitho discloses a signal traffic routing method for a signaling network (a method of routing signaling messages through an SS7 network (see figures 1-3 and columns 4 and 5)), comprising:

receiving a signal message at a signal transfer point, analyzing a routing label of the received message and determining the final destination (the destination address of the message is analyzed to see where it is to be routed (see figures 1 and 2 and columns 4 and 5));

analyzing whether the final destination of the received signal message is a local system

based on a result of the analysis (the switching node neighboring the destination node will send

the message to the destination otherwise the message is routed to an intermediate node (see

figures 1 and 2 and columns 4 and 5));

transferring the received signal message to a message routing unit when the final

destination is not the local system (the switching node neighboring the destination node will send

the message to the destination otherwise the message is routed to an intermediate node (see

figures 1 and 2 and columns 4 and 5));

setting a signal route for transferring the signal message using a Signaling Link Selection

of the routing label (a link is chosen to route the message on according to a routing table and the

routing address of the message and the address of the next hop is inserted into the message (see

figures 1 and 2 and columns 4 and 5));

selecting a link for the signal message from the link set of the set route using link

determination history and link determination data (a link is chosen to route the message on

according to the preferred link and the alternative links in the routing table and the routing

address of the message (see figures 1 and 2 and columns 4 and 5)).

Glitho does not disclose updating the link determination history data based on the determined

link. However, Qiu discloses a system wherein routing paths of a routing table of a network are

updated over time (see column 1 lines 35-67)). It would have been obvious to one skilled in the

art at the time of the invention to update the routing tables of Glitho, as taught in Qiu, because

doing so would make sure that the table is current and thus prevent sending messages through

old and possible erroneous paths, thus improving the reliability of the Qiu system. This is

particularly important because the table in Glitho is static and so if certain paths become corrupt or overloaded the routing tables can't be updated which may cause errors and link shut down.

Referring to claim 14, Glitho discloses the system discussed above. Furthermore, Glitho discloses that the method is performed by a message transfer unit comprising a message discriminating unit (the intermediate switches comprise means for analyzing the destination address of the received message (see figures 1 and 2 and columns 4 and 5)), a message distributing unit (the intermediate switches comprise means for sending out the messages to the next node (see figures 1 and 2 and columns 4 and 5)) and a message routing unit (the intermediate switches comprise means for determining the next link to route the message on (see figures 1 and 2 and columns 4 and 5)).

Referring to claim 15, Glitho discloses the system discussed above. Furthermore, Glitho discloses that a routing label of the signal message includes a Signaling Link Selection bit, a an origination point code and a destination point code (the messages in Glitho are SS7 network messages and as pointed out in the specification of the present invention on page 1 lines 15-19, it is standard for these messages to have 4-bit Signaling Link Selections, a 14-bit origination point codes and a 14-bit destination point codes).

Referring to claim 16, Glitho discloses the system discussed above. Furthermore, Glitho discloses transferring the received signal message to a user part when the final destination of the received signal message is a local system (when the switching node neighboring the destination node receives the message it sends the message to the destination node which is used by a user and is thus a 'user part' (see figures 1 and 2 and columns 4 and 5)).

Referring to claim 18, Glitho discloses the system discussed above. Furthermore, Glitho discloses that the link determination data and link determination history comprises a link determination history which is a variable representing that a signal message having a corresponding label is routed through a corresponding link (the routing table includes a primary link set (see figures 1 and 2 and columns 4 and 5)) and a link determination data which is a variable representing an available link used when determining the next link (the routing table also includes alternate link sets which are available for use by the switching nodes (see figures 1 and 2 and columns 4 and 5)).

Referring to claim 19, Glitho discloses the system discussed above. Furthermore, Glitho discloses that the method is performed by a message transfer unit (a switching node (see figure 1)) comprises a message distributing unit that transfers a signal message to a user part of the local system (if the switching node neighbors the destination node it sends the messages to the destination nodes which is a local system used by 'users' (see figures 1 and 2 and columns 4 and 5)), a message discriminating unit that analyzes a message received from a message transfer unit and checks whether a final destination of the message is a local system (the switching node looks at the address of the incoming message to determine the next place to send the messages which is the destination if it is a neighboring node to the destination (see figures 1 and 2 and columns 4 and 5)) and the message routing unit which routes the message to a route connected with a neighboring signal transfer point to transfer the message to the final destination (the switching node routes messages based on the address of the incoming message to determine the next place to send the messages which is the destination if it is a neighboring node to the destination (see figures 1 and 2 and columns 4 and 5)).

7.   Claim 17, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable

over Glitho in view of Qui and further in view of Katsuragawa et al. (USPN 5,907,586),

hereafter referred to as Katsuragawa.

Referring to claim 17, Glitho discloses the system discussed above. Furthermore, Glitho

discloses that the step for selecting the link comprises checking the link determination history to

determine whether the signal message is routed based on the same Signal Link Selection as a

previous Signal Link Selection (the address of the message is analyzed based on entries in the

routing table and routed over a link which was previously used if the message is going to the

same destination and is available (see figures 1 and 2 and columns 4 and 5)). Glitho does not

disclose determining if a link is stable or not. However, Katsuragawa discloses a system wherein

the reliability of a previously used path is determined before using the path again (see column 16

line 31 through column 17 line 40). It would have been obvious to one skilled in the art at the

time of the invention to implement this feature in Glitho because doing including a link stability

function in Glitho would make the system more reliable. This is particularly important in Glitho

because as Glitho points out in column 1 the routing tables are subject to corruption and the link

are subject to overloading.

Response to Arguments

8.   Applicant's arguments filed 01/12/2004 have been fully considered but they are not

persuasive.

On page 8 first paragraph the Applicant argues that in contrast to the Glitho reference, the present invention is used to select a link using the determination history when there are more than two links available in the link set of a rout from each signal transfer point. However, the claims do not recite this particular configuration.

Also on page 8 last paragraph, regarding claim 13, the Applicant argues that the claimed invention is directed to updating link determination history and link determination data. The Examiner respectfully disagrees. The claim only recites that the updating is based on the link determination history and not he link determination data. Note, assuming *arguendo,* and the claim did recite such a limitation the references would still be valid. Namely, Glitho discloses choosing paths based on the link set table (the determination history) and the routing address of the message (the determination data) and Qui discloses updating such tables.

On page 9 the Applicant argues that the invention is different from the references because the present invention updates the determination history to prevent concentration to a specific link. The Examiner has already acknowledged that Glitho does not update the link table. The Qui reference discloses a system wherein routing paths of a routing table of a network are updated (see column 1 lines 35-67)) and the motivation for combining Glitho with Qui is that it would make sure that the table is current and thus prevent sending messages through old and possible erroneous paths, thus improving the reliability of the Qiu system. This is particularly important because the table in Glitho is static and so if certain paths become corrupt or overloaded the routing tables can't be updated which may cause errors and link shut down.

Conclusion

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to David Odland, who can be reached at (703) 305-3231 on Monday

– Friday during the hours of 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou, can be reached at (703) 305-4744. The fax number for the

organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist, who can be reached at (703) 305-4750.

deo

March 9, 2004
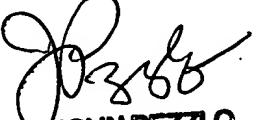
JOHN PEZZLO
PRIMARY EXAMINER